5. (Amended) A manufacturing/handling instructing data code comprising:

a data code to be affixed to a package of fluid component packaged goods, the data code containing at least manufacturing instructing data to be utilized in manufacturing the fluid component in the fluid component packaged goods and handling instructing data to be utilized in handling the fluid component packaged goods, wherein the data code is configured so as to contain the data for instructing manufacturing and handling operations to be automated to be able to directly instruct processing and handling operations in a processing or handling section.

7. (Amended) A manufacturing/handling instructing data code comprising:

a data code to be affixed to a paint can goods in which paint is filled, the data code containing at least manufacturing instructing data to be utilized in manufacturing the paint filled in the paint can goods and handling instructing data to be utilized in handling the paint can goods in which the paints are filled, wherein the data code is configured so as to contain the data for instructing manufacturing and handling operations to be automated to be able to directly instruct processing and handling operations in a processing or handling section.

9. (Canceled).

REMARKS

Favorable reconsideration of this application, in light of the present amendment and the following discussion, is respectfully requested.

Claims 5-8 are presently pending in this application, claim 9 having been canceled, without prejudice or disclaimer, and claims 5 and 7 having been amended, by the present amendment.

In the outstanding Office Action, the drawings were objected to under 37 C.F.R. § 1.83(a) as failing to show every feature of the invention specified in the claims, misnumbered

claim 11 was renumber to claim 9, claim 9 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite, claims 5, 6, and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Simmons*, and claims 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Simmons* in view of *United Kingdom Patent Application Publication No. 2,240,205* (hereinafter "*GB '205*").

Applicants have proposed drawing corrections by adding new drawing FIG. 2 which shows a paint can (5) discussed on page 20, line 23 through page 25, line 4 of the specification. The paint can (5) in new FIG. 2 is shown to have a label (5a) pasted or attached to the upper surface of the side surface of the paint can (5). The label (5a) has markings thereon indicating the manufacturing/handling instructing data code or data code (5b). Applicants respectfully submit that it is believed that new drawing FIG. 2 does not add new matter. Based on the foregoing, Applicants respectfully request withdrawal of the objection to the drawing figures and approval of the proposed drawing changes.

A substitute specification is being filed herewith which is similar to the substitute specification filed in parent application Serial No. 09/348,266, but which has additional changes made thereto, such as changing the title of the invention to reflect the invention claimed in the divisional application, insertion of a description of new drawing FIG. 2 in the Brief Description of the Drawing section, and insertion of a discussion of drawing FIG. 2 and reference characters 5a and 5b into the Detailed Description of the Preferred Embodiments section. Applicants respectfully submit that the substitute specification does not add new matter.

Claim 9 has been canceled, without prejudice or disclaimer, and claims 5 and 7 have been amended to include the subject matter of canceled claim 9 by reciting that the data code is configured so as to contain the data for instructing manufacturing and handling operations

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to be automated to be able to directly instruct processing and handling operations in a processing or handling section.

As a quick synopsis of the applied prior art references, Applicants refer the examiner's attention to the abstract of *Simmons* and *GB '205*, as follows:

Simmons discloses a package comprising a container having regular information on an outer surface thereof and a wrapper extending at least partially over the container surface and bearing information of which at least some is substantially identical to at least some of the regular information on the outer container surface.

GB '205 discloses a can of paint (11) which holds paint of a particular color, known as the main color, which is closed by a lid (10) having a picture thereon, the picture having a first area (20) colored with the main color and at least two other areas (21 to 24) colored with second and third colors, respectively. The can may be provided with a transparent portion in the side wall of the can through which the color of the paint can be seen. The picture may be applied to the lid during manufacture or may be applied to a disc-shaped card which may be applied to the lid with adhesive.

Neither *Simmons* nor *GB '205* teaches or suggests, as is now recited in amended claims 5 and 7, that the data code is configured so as to contain the data for instructing manufacturing and handling operations to be automated to be able to directly instruct processing and handling operations in a processing or handling section.

More particularly, Applicants respectfully submit that *Simmons* discloses a data code affixed to a package of fluid goods, and *GB '205* discloses a paint can having labels on the outside thereof. However, such fluid goods, e.g., "COLA" as illustrated in *Simmons*, have the same composition and they are uniformly and massively produced. So the data code taught by *Simmons* is one providing uniform information, such as product standards,

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production dates, selling prices, and so on, and not manufacturing/handling instructing data code having different information for each package. Data code affixed to ordinary fluid goods packaged in a can are usually of such type. Accordingly, the data code for fluid goods which are massively and uniformly produced, such as is disclosed in both *Simmons* and *GB '205*, could not give one of ordinary skill in the art the motivation to result in Applicants' invention of a manufacturing/handling instructing data code having a specific content for each individual fluid component packaged goods.

Further, according to the present invention, the date code itself contains the information for manufacturing and handling a fluid component. So because the fluid component packaged goods can be manufactured and handled based on each of the data code, a central processing computer for controlling the entire process is not required. Thus, if an error occurs in information or processing only partially occurs, the error affects only the individual fluid component packaged good, but does not damage the entire process. Such advantageous processing can be attained by the data code of the present invention.

Applicants respectfully submit that the amendments to claims 5 and 7 do not add new matter. Applicants also respectfully submit that claim 6 is directly dependent upon amended claim 5 so that arguments serving to patentably distinguish amended claim 5 from the prior art of record are available, among others, to patentably distinguish claim 6. Applicants also respectfully submit that claim 8 is directly dependent upon amended claim 7 so that arguments serving to patentably distinguish amended claim 7 from the prior art of record are available, among others, to patentably distinguish claim 8. Based on the foregoing, Applicants respectfully request withdrawal of the rejection of claim 9 under 35 U.S.C. § 112, second paragraph, withdrawal of the rejection of claims 5, 6, and 9 under 35 U.S.C. § 103(a) as being unpatentable over *Simmons*, withdrawal of the rejection of claims 7 and 8 under 35

U.S.C. § 103(a) as being unpatentable over *Simmons* in view of *GB '205*, and allowance of claims 5-8.

In view of the foregoing, claims 7-8 are believed to be in condition for allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

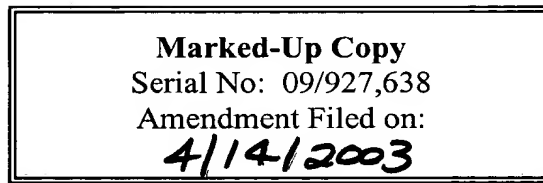OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

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Serial No: 09/927,638
Amendment Filed on:
4/14/2003

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IN THE CLAIMS:

Please cancel claim 9, without prejudice or disclaimer, and amend claims 5 and 7, as follows:

5. (Amended) A manufacturing/handling instructing data code [which is] comprising:

a data code to be affixed to a package of fluid component packaged goods, the data code containing at least manufacturing instructing data to be utilized in manufacturing the fluid [components, i.e., the contents,] component in the fluid component packaged goods and handling instructing data to be utilized in handling the fluid component packaged goods, wherein the data code is configured so as to contain the data for instructing manufacturing and handling operations to be automated to be able to directly instruct processing and handling operations in a processing or handling section.

7. (Amended) A manufacturing/handling instructing data code [which is] comprising:

a data code to be affixed to a paint can goods in which paint is filled, the data code containing at least manufacturing instructing data to be utilized in manufacturing the [paints, i.e., the contents,] paint filled in the paint can goods and handling instructing data to be utilized in handling the paint can goods in which the paints are filled, wherein the data code is configured so as to contain the data for instructing manufacturing and handling operations

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to be automated to be able to directly instruct processing and handling operations in a processing or handling section.

    9. (Canceled).

MARKED-UP COPY OF ORIGINAL SPECIFICATION

~~METHOD FOR MANUFACTURING/HANDLING FLUID COMPONENT PACKAGED~~
                    ING
~~GOODS,~~ MANUFACTURE/HANDLING INSTRUCTING DATA CODE ~~FOR USE IN~~
          AFFIXED TO
~~THIS METHOD AND~~ FLUID COMPONENT PACKAGED GOODS ~~AFFIXED BY THIS~~
AND FLUID COMPONENT PACKAGED GOODS HAVING
        MANUFACTURE/HANDLING INSTRUCTING DATA CODE AFFIXED THERETO
                        ING

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for manufacturing/handling fluid component packaged goods, a manufacture/handling instructing data code for use in this method and fluid component packaged goods to which this manufacture/handling instructing data code is affixed. The invention is suitably applied to goods such as a paint can in which paint is filled in particular.

2. Description of the Related Art

~~Trials of introducing a~~ A data code such as a bar code and a two-dimensional data code ~~(~~ has been introduced ~~)~~ into manufacturing lines of various goods as a manufacturing instructing data code ~~have come to be actively implemented lately~~ to enhance the efficiency for manufacturing goods and to eliminate processing and handling ~~misses~~ failures during the manufacture.

For instance, JP-A-57-71151, JP-A-62-28157 and JP-A-4-146649 have disclosed such data code in connection with semiconductor devices, JP-A-59-124469 has disclosed it in connection with the production of cars and JP-A-6-178955 has

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disclosed ^*it* in connection with painting products. Further, JP-A-6-134656 and JP-A-7-21271 have disclosed a manufacturing instructing data code itself.

In the technologies disclosed in the above-mentioned publications, the manufacturing instructing data code such as a bar code is affixed to nonprocessed/non-treated goods to process/treat the goods accurately and automatically by reading processing/treatment information directly from the data code or by collating ~~to a computer about the contents of~~ *(with)* *information in a computer.* processing/treatment ~~by reading~~ goods identification information *read* on a manufacturing line.

All of these technologies described abode ~~may be recognised to be able to~~ *can* improve the manufacturing ~~yield~~ *efficiency* and ~~to~~ reduce processing/treatment *failures.* ~~misses by introducing such manufacturing instructing data code.~~

By the way, each of the technologies described above utilizes the data code only in the processing/treatment ~~process~~ of goods. However, *in general,* there is a packaging line after the manufacturing line for the goods of general size manufactured in the factory line, except *of* very large goods such as a car, and the factory line cycle ends ~~for the first time~~ after passing through steps of classifying the packaged goods ~~per package~~ and *of* conveying the packaged goods to predetermined shipping yards ~~in general~~. Accordingly, it has been desired to introduce something like a "handling

instructing data code" as to handling process after the manufacturing to improve its efficiency and to reduce handling failures.

However, because the packaged goods can be manufactured only after the processing/treatment of the goods, the manufacturing instructing data code cannot be affixed to the package. Even if the handling instructing data code is affixed to the goods, it is difficult to read the code mechanically through the package in general except for a package such as vacuum packing by means of a transparent film. Accordingly, it has only been possible to affix the manufacturing instructing data code to goods to be processed/treated and to affix the handling instructing data code even if introduced, separately to goods to be packaged.

Namely, such method has required for two objects, i.e. two data codes the manufacturing instructing data code for a product and the handling instructing data code for its package, in separate steps for one packaged goods. Further these two data codes must correspond correctly with the goods and package. Therefore, there have been problems that the

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data code pasting ~~process~~ and ~~an information~~ *data* processing ~~system~~ ~~of the data using~~ *in* a computer ~~and others~~ *or the like* are very complicated.

The same applies to ~~There has been also no technology in~~ the field of fluid component goods such as paint and various liquid component goods or of solid particulate component goods having fluidity. *namely, it has not been possible to improve* ~~for rationally improving~~ the ~~efficiency of~~ manufacturing, packaging and handling ~~processes~~ *efficiency* and ~~reducing~~ *to* *e* handling ~~misses~~ *failures* ~~of the fluid component goods~~ by using the manufacturing instructing data code and the handling instructing data code. ~~because it has been considered that the above-mentioned circumstance applies in the same manner in the past.~~

SUMMARY OF THE INVENTION

Accordingly, it is an object of the invention ~~is~~ to eliminate the above-mentioned problems in manufacturing/handing the fluid component packaged goods.

The inventor*s* of the present application *have* ~~has~~ reached ~~to~~ the following points to be noticed and *conceived* ~~consummated~~ the present invention*:* ~~while making trials and errors to find the solution of the above-mentioned problems:~~

(a) Normal solid goods allow the manufacturing instructing data code to be indicated directly on the goods ~~because the goods themselves have independent spatial configuration~~ and can be processed/treated ~~corresponding~~ *according* to the manufacturing instructing data code as the goods are conveyed on a manufacture line one by one. However, it has the above-

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mentioned problem~~s~~ because they cannot be processed/treated

from the outside of the package. ~~in principle.~~

(b) Fluid component goods ~~disallows~~ (do not allow) the manufacturing

instructing data code to be indicated directly on the goods

and cannot be processed/treated in a predetermined manner by

classifying ~~dividing~~ and conveying it on the manufacture line one by one.

~~In contrary, however,~~ _Thus,_ it is possible to manufacture, package

and handle the goods ~~by~~ _as_ one single data code by indicating

the manufacturing instructing data code and the handling

instructing data code together on the package. ~~when~~ _When_ the fluid

is filled within a packaging container, _however,_ ~~because it allows at~~

~~least~~ _to be_ "processing/treatment after packaging" ~~such as~~

~~processes for filling and mixing components~~ _is possible._

(c) ~~While a method of~~ producing a predetermined component

per product type as a master batch and ~~of separately~~ _then_ filling

it into individual packaging containers, ~~has been normally~~

~~adopted in the past as a method for producing~~ _Conventionally,_ a number of types

of products such as paints ~~, there has been introduced, lately,~~ _have been produced by first_

Recently, however, there has been introduced

a method of supplying empty packaging containers on a

manufacture line one after another, ~~of~~ filling predetermined

components into the individual packaging containers and ~~of~~

mixing them therein to produce the fluid component and the

fluid component packaged goods ~~in~~ _at_ the same time. The adoption

of this method allows the merit of the above item (b) to be

actively utilized.

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(~~Structure of~~ First Aspect of the Invention)

In order to solve the above-mentioned problems, according to ~~the structure of~~ a first aspect of the invention ~~(invention described in Claim 1)~~, there is provided a method for manufacturing/handling fluid component packaged goods comprising _the_ steps of manufacturing fluid components of at least two ~~or more~~ types having different ~~contents of~~ composition; manufacturing fluid component packaged goods of _at least_ two ~~or more~~ types in which the fluid components ~~of two or more types~~ are filled in packaging containers; and handling the fluid component packaged goods ~~of two or more types~~ differently ~~corresponding~~ _according_ to their _types or_ classification. The method further comprises the following conditions 1) through 4):

1) The fluid components of _at least_ two ~~or more~~ types and the fluid component packaged goods of _at least_ two ~~or more~~ types are manufactured concurrently by filling the predetermined components corresponding to the _types or_ classification of the fluid components to and by implementing other necessary processes on individual packaging containers supplied one after another on one and _the_ same manufacturing line.

2) The fluid component packaged goods ~~of two or more types~~ manufactured on the manufacturing line are handled in a predetermined manner corresponding to its _types or_ classification on a handling line.

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3) A manufacturing/handling instructing data code containing processing information required for manufacturing the fluid components and handling information required for handling the fluid component packaged goods is indicated on the individual packaging containers in advance or in a pre-step of the manufacturing line.

4) Required processes based on the processing information of the data code are decided and executed in processing stations for manufacturing the fluid components ~~on~~ *and the fluid component packaged goods,* the manufacturing line, and required handling based on the handling information of the data code are decided and executed in handling stations for handling the fluid component packaged goods on the handling line.

According to ~~the structure of~~ a second aspect of the invention, ~~(invention described in Claim 2) for solving the above mentioned problems,~~ there is provided the method for manufacturing/handling the fluid component packaged goods, wherein the fluid component is paint and the fluid component packaged goods are paint goods filled in paint cans, ~~in the first aspect of the invention.~~

According to ~~the structure of~~ a third aspect of the invention, ~~(invention described in Claim 3) for solving the above mentioned problems,~~ there is provided the method for manufacturing/handling the fluid component packaged goods, wherein the data code is a bar code or a two-dimensional code

printed or pasted on the paint cans. ~~in the first or second aspects of the invention.~~

According to ~~the structure of~~ a fourth aspect of the invention ~~(invention described in Claim 4) for solving the above mentioned problems~~, there is provided the method for manufacturing/handling the fluid component packaged goods, wherein the processes on the manufacturing line are at least processes for filling the predetermined components into the paint cans and ~~for~~ mixing the paint cans, and the process on and conveying the handling line is at least a process for classifying the paint goods contained in the cans to predetermined shipping yards. ~~in the second or third aspect of the invention.~~

According to ~~the structure of~~ a fifth aspect of the invention ~~(invention described in Claim 5) for solving the above-mentioned problems~~, there is provided a manufacturing/handling instructing data code which is a data code to be affixed to a package of fluid component packaged goods and which contains at least a manufacturing instructing data to be utilized in manufacturing fluid components, ~~i.e. the contents,~~ and a handling instructing data to be utilized in handling fluid component packaged goods.

According to ~~the structure of~~ a sixth aspect of the invention ~~(invention described in Claim 6) for solving the above-mentioned problems~~, there is provided fluid component packaged goods, ~~characterized in that~~ in which the

manufacturing/handling instructing data code in the fifth

aspect of the invention is affixed on packaging containers

thereof.

According to ~~the structure of~~ a seventh aspect of the

invention ~~(invention described in Claim 7) for solving the~~

~~above-mentioned problems~~, there is provided a

manufacturing/handling instructing data code which is a data

code to be affixed to a paint can goods ~~in which paint is~~ to be filled with paint

and which contains at least a manufacturing instructing data

to be utilized in manufacturing the paint ~~s, i.e., the contents,~~

and handling instructing data to be utilized in handling the

paint can goods (filled with the paint. ~~in which the paints are filled.~~

According to ~~the structure of~~ an eighth aspect of the

invention ~~(invention described in Claim 8) for solving the~~

~~above-mentioned problems~~, there is provided paint goods

contained in cans, ~~characterized in that~~ in which (the

manufacturing/handling instructing data code in the seventh

aspect of the invention is affixed to the paint cans.

Individual packaging containers for manufacturing fluid

components of at least two ~~or more~~ types having different

~~contents of~~ composition are supplied one after another on one

and the same manufacturing line at first in the method for

manufacturing/handling the fluid component packaged goods.

The multi-type goods are manufactured continuously on

one and the same manufacturing line by undergoing the process for

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filling predetermined components to these packaging containers ~~corresponding~~ according to the classification of the fluid components and other required processes, e.g., a process for mixing the fluid components. Thus, it becomes possible to provide ~~construct~~ the unique multi-product type concurrent manufacturing method of manufacturing the fluid components of two or more types unlike ~~different from~~ the normal solid processes for ~~processed~~ goods ~~goods,~~ and of completing the manufacturing of the packaged goods at ~~in~~ the same time.

The variety of fluid component packaged goods produced out of the manufacturing line are handled, then ~~next to classify~~ (for example, classified) and sent ~~to send~~ to a predetermined shipping yard (or a stock yard) decided per type of the products. ~~for example.~~

In such manufacturing/handling cycle of the fluid component packaged goods, the manufacturing/handling instructing data code containing the processing information required for manufacturing the fluid components and the handling information required for handling the fluid component packaged goods ~~are~~ is indicated on the individual packaging containers in advance or in the pre-step of the manufacturing line by pasting labels or by printing.

Accordingly, the processing and handling operations in each station may be decided and executed by reading ~~the section of~~ the manufacturing process information within the manufacturing/handling instructing data code in the

processing stations for manufacturing the fluid components and ~~the section of~~ the handling information within the manufacturing/handling instructing data code in the stations for handling the fluid component packaged goods mechanically by using code readers or the like. Thus, it becomes possible to automate the whole manufacturing/handling cycle of the fluid component packaged goods.

~~At this time,~~ the merit ~~of the fluid component~~ pointed out in (b) in the section of notified points described above may be realized by combining the method of supplying the empty packaging containers on which the manufacturing/handling instructing data code is indicated to the manufacturing line with the method of carrying out the processes ~~of~~ _such as_ filling the predetermined fluid components into these individual containers, ~~and of~~ mixing them _and the like._ That is, when the fluid components are contained within the packaging container, it is ~~at least~~ possible to implement "processing/treatment after packaging" such as ~~the processes of filling and~~ mixing the components _and the like,_ so that it becomes possible to manufacture, package and handle the goods by one data code _indicating_ ~~by indicating~~ _containing both_ the manufacturing instructing data code and handling instructing data code ~~together~~ on the package.

As a result, it becomes unnecessary to indicate the two types of data codes of manufacturing instructing data code and handling instructing data code to the objects of two types

of the product and the package in the separate steps for one packaged goods like the prior art. Accordingly, because a check system for assuring the two types of data codes to correspond infallibly ~~from~~ *with* each other is not required, the data code pasting process and a data information processing system using a computer and other may be remarkably simplified.

The above-mentioned operations and effects may be achieved preferably when the fluid component is paint or other liquid components and when the fluid component packaged goods are paint goods filled in paint cans or other can containers. The above-mentioned operations and effects may be achieved preferably when the manufacturing/handling instructing data code is a bar code or a two-dimensional code printed or pasted on the packaging container such as a paint can.

The above and other advantages of the invention will become more apparent in the following description and the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING *FIGURES*

FIG. 1 is a diagram conceptually showing a system of a preferred embodiment of the invention.

FIG. 2 is a perspective view of fluid component packaged goods (i.e. a paint can) having manufacturing/handling instructions data code affixed thereto.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

(Fluid Component)

The present invention does not limit the type of fluid component and is applicable to liquid phase, particulate phase and gaseous phase components having a fluid state or semi-fluid

state. The fluid component may be also one composed of only single phase material among them or composed of mixture of two or more phases of such materials such as solid suspension. The one composed of only single phase material described above includes emulsion for example. The invention is suited for liquid components or paint components in particular among them.

Fluid components of two or more types having different contents of composition may be produced by the invention. The differences of the contents of composition include the difference of all kinds of contents of composition distinguishable as fluid component goods (for example, filling amounts and color tones of the fluid component, grades of material, whether or not aggregate is added, whether or not thickener, water repellent or fungicide is added and the like), beside the case when the type of the component is different and the ratio of the components is different.

(Step of Manufacturing Two or More Kinds of Fluid Components)

While two or more kinds of fluid components are produced by filling predetermined components ~~by~~ in predetermined amounts on a manufacturing line in principle, one which has been already prepared may be used for part of the components like the case of completing the basic composition of paint separately in advance ~~in manufacture paints for example~~ and of producing paints of two or more kinds having different

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colors by mixing pigments having predetermined color tones

therewith ~~by~~ in a predetermined amount on the manufacturing line.

While the fluid component manufacture step includes at least a process of filling the predetermined components into a packaging container, it is possible to include other processes. Such processes include ~~processes of~~ mixing the filled components~~, giving information by~~ based on the manufacturing instructing data code, and checking the quality of the fluid component ~~on the assumption~~ provided that it may be automatically processed ~~and the like for example.~~

(Step of Manufacturing Two or More Kinds of Fluid Component Packaged Goods)

Because the above-mentioned step of manufacturing the two or more kinds of fluid components also becomes the step of manufacturing two or more kinds of fluid component packaged goods, the both steps are completed basically ~~in~~ at the same time.

More strictly speaking, a process for sealing the package such as a capping step for capping a filling port is included in this step because the packaging container of the fluid component has at least the filling port for filling the fluid component. This package sealing process may be carried out arbitrarily at required timing. For example, when the fluid component mixing step is carried out by inserting agitating means to the packaging container from the filling port, the package sealing process is carried out after the mixing step.

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When the fluid component mixing process is to be carried out by holding and swinging or rotating the whole packaging container, the package sealing process is carried out before the mixing step.

The shape and material of the packaging container are not limited specifically in the invention. However, because the manufacture/handling instructing data code is indicated on the packaging container, a soft and flexible bag is not preferable as the packaging container ~~from the aspect that~~ _since_ it is not easy to indicate and to read the data code reliably by a code reader. A preferable container is a packaging container which is made ~~from~~ _of_ a rigid material such as metal and plastic and which has a flat surface so that the data code may be indicated readily at a region where it can be read readily by the code reader. A cubic or rectangular parallelepiped metallic paint can which is used often as a paint packaging container is an example suited most as a container.

(Step for Handling Two or More Kinds of Fluid Component Packaging Goods)

The fluid component packaged goods produced one after another in the above-mentioned steps are handled next in a predetermined manner corresponding to the type of the goods in a handling line. While the contents of the handling are not specifically limited, the typical one is to specify the name of a consignee and a carrier and to classify and convey

the goods to a shipping or stock yard corresponding to that. Beside that, the handling contents include those operations of placing the goods at a specific position of the shipping or stock yard, managing a number of stocks, collecting a plurality of goods, and packaging a plurality of goods in a batch.

It is also possible to include the handling instructing data effective for automating certain handling works of handling and storing in/taking the packaged goods out of a warehouse in the data code described above by expanding the concept of the "handling works" of the fluid component packaged goods under the cooperation of shipping agents or of users at the destinations.

(Manufacturing/Handling Instructing Data Code)

Preferably, the manufacturing/handling instructing data code is a so-called bar code or more preferably, is a two-dimensional code which allows a larger amount of information to be set. ~~Other than those,~~ it may be of a type of setting information by punching through a card in a predetermined mode for example. In short, it will do if it can be read mechanically by a reader such as a code reader and can be processed or handled automatically in a processing station or a handling station through information processing via computers.

Although the mode for indicating the manufacturing/handling instructing data code on the packaging container is not limited, preferably, the manufacturing/handling instructing data code is printed directly on the packaging container or a label on which the manufacturing/handling instructing data code is indicated is pasted on the packaging container. The region on the packaging container where the label is pasted is not ~~also~~ limited and the region where the manufacturing/handling instructing data code can be read readily and reliably by the reader may be adequately selected ~~and pasted~~. In case of a paint can for example, it becomes easy to design a manufacturing line including the disposition of the code reader in many cases by pasting the label on the flat portion of the upper surface (top board of the can). It causes no problem even when a cylindrical paint can is used. The label may be pasted on the side or bottom of the can as a matter of course.

The manufacturing/handling instructing data code may be also indicated in advance on the packaging container to be supplied to the manufacturing line or a label issuing and pasting unit may be installed at the pre-step of the fluid component manufacture step in the manufacturing line to paste a predetermined kinds/number of manufacturing/handling instructing data codes on the packaging containers one after another as scheduled. Because the manufacture/handling works

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of the fluid component packaged goods are decided by the type and the number of issued labels in those cases, the operation of the whole manufacture/handling lines of the factory is controlled automatically by the labels. Accordingly, it is possible to construct a manufacturing system for managing a manufacturing plan of a day or a week by the type and the number of issued labels.

At least, manufacturing instructing data to be utilized in producing the fluid component and handling instructing data to be utilized in handling the fluid component packaged goods are included as the contents of information of the manufacturing/handling instructing data code.

However, in the manufacturing or handling line of multi-type fluid components and of fluid component packaged goods, there is also a step which is processed more conveniently by processing manually rather than automatically. Accordingly, the effect of the invention may be assured when at least one process in the manufacturing step and one process in the handling step (the process for deciding and executing the type and the amount of component to be filled in the fluid component manufacturing process and the process of deciding and executing the classification of goods in the fluid component packaged goods handing step for example) are automated and all processing/handling works other than those need not be always automated.

Therefore, data for instructing one process in the manufacturing step and data instructing one process in the handling step (data instructing the type and the amount of the component to be filled or manufacturing instructing data of the other type in the fluid component manufacturing step and data instructing the classification of the goods or handling instructing data of the other type in the fluid component packaged goods handing step for example) just need to be included in the manufacturing instructing data and the handling instructing data.

It is noted that the utilization of the manual works is effective particularly in receiving an order and in shipping the goods on the day. It becomes easy to limit shipping time on that day (moving up the time or adjusting to collecting time of a truck on a route) or to change the production plan when an order is canceled on that day.

The manufacturing/handling instructing data code may be structured so as to contain all data required for instructing the manufacturing and handling works to be automated to be able to directly instruct processing and handling works in the processing or handling station. It may be also structured so as to contain only identification data (ID code or the like) indicating the type of the goods to be able to take out necessary manufacturing and handling instructing data from a memory of a host computer based on that.

[EMBODIMENT]

Next, one embodiment of the invention will be explained based on FIG. 1 which shows an exemplary system of the method for manufacturing/handling the fluid component packaged goods.

The system of the present embodiment is a system for concurrently and continuously producing multi-type paints contained in paint cans. The type of the paints (are classified) roughly into paint containing predetermined aggregate and paint not containing it. Paints having a predetermined plurality of color tones are produced by adding pigments of respective colors to the both types of the paints (there is a case when no pigment is added).

The system shown in FIG. 1 comprises a manufacturing line 1 for preparing paint components to be contained in a can and a handling line 2 for classifying and conveying them. Whether these manufacturing and handling lines should be composed of a singular line or a plurality of lines may be arbitrarily changed.

The manufacturing line 1 starts from two paint can supplying paths 3 and 4 composed of a conveyer and others capable) of conveying the goods in the direction of arrows in the figure. Paint cans 5 supplied to the pain can supplying path 3 are empty cans in which the paint containing no aggregate is scheduled to be produced. Paint cans 5 supplied to the paint

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can supplying path 4 are filled with blank base paint (whose basic composition is completed in advance and whose composition as the paint is completed by filling pigment) in which predetermined aggregate has been added.

Then, a labeler 6 pastes labels 5a ~~not shown~~ on which the manufacturing/handling instructing data code 5b having predetermined information contents is indicated on the paint cans 5 , as shown in FIG. 2, conveyed through the two paint can supplying paths 3 and 4. At this time, whether the paint can 5 is the empty can or the can filled with the blank base paint is discriminated adequately by manual or automatic means. The paint can 5 shown in FIG. has a label 5a pasted on or attached to the upper surface or the side surface ~~of the paint can~~ thereof. The manufacturing/handling instructing data code 5b on label 5a contains information regarding on whether it is the aggregate added paint or not, ~~on the operation for~~ and on the processes of (filling the base paint, ~~on the operation for~~ adding the pigments and (mixing ~~on how~~ the components ~~are to be mixed~~ as the manufacturing instructing data, and information regarding on the classification of goods per type, names of consignees and shipping agents as the handling instructing data. ~~Or,~~ The manufacturing/handling instructing data code may include the identification code of the manufacturing instructing data and the identification code of the handling instructing data so as to ~~be able to~~ collate to a computer about the manufacturing instructing data and the handling instructing data.

It is noted that while the paint can supplying path has been divided into two lines due to the manufacturing situation and ~~to~~ the convenience of the line design, those paint can supplying paths 3 and 4 may be unified as the circumstances permit.

The paint cans 5 on which the label of the manufacturing/handling instructing data code has been pasted by the labeler 6 are divided and sent either to a first processing line 8 in which the aggregate added paint is produced or a second processing line 9 in which the aggregate-less paint is produced as the respective data codes are read at a line selecting section 7. That is, the paint cans 5 in which the aggregate added blank base paint has been filled are sent to the first processing line 8 and the paint cans 5 which are empty cans are sent to the second processing line 9, respectively.

Pigments of predetermined colors are filled into the aggregate added blank base paint which has been already filled in the paint cans 5 sent to the first processing line 8 by a predetermined amount as the information of the manufacturing/handling instructing data code is read by mechanical means such as a code reader not shown in a filling station 10 for filling pigments. Then, their filling ports are sealed by caps by a cap closing unit not shown and they are sent to an agitating station 11 to undergo a mixing process

so that the paint components are agitated and mixed homogeneously.

A large number of agitating units are installed along the line because the agitating station 11 requires a longer processing time as compared to the other steps. While this agitating unit holds the sealed paint can 5 having rectangular parallelepiped shape by a clamp to shake, agitate and mix the contents homogeneously, another agitating unit having another scheme may be adopted.

Meanwhile, because the paint cans 5 sent to the second processing line 9 are empty cans, they are sent to a filling station 12 for filling blank base paint at first. Here, the information of the manufacturing/handling instructing data code is read by mechanical means such as a code reader not shown to fill the blank base paint having a predetermined composition in a predetermined amount. Then, they are sent to a filling station 13 for filling the pigments, which is constructed in the same manner as the filling station 10, and to an agitating station 14 which is constructed also in the same manner as the agitating station 11 via the work for sealing the cap of the filling port by the cap closing unit constructed in the same manner as that described to undergo the agitating and mixing step. There is a case when the paint cans 5 do not undergo the mixing step in the agitating station 14 depending on the type of the paint cans 5 (when

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the blank base paint is filled and no aggregate nor pigment
is added for example).

While the first processing line 8 and the second
processing line 9 are divided intentionally as the lines for
the paint cans 5 of the aggregate added paint and for the paint
cans 5 of the aggregate-less paint by taking the manufacturing
efficiency and others into account, it is of course possible
to unify those lines into one line having the base paint filling
station, a pigment filling station and an agitating station,
on the assumption of utilizing ~~so long as~~ the manufacturing/handling
instructing data code ~~is utilized~~.

The paint cans 5 of the aggregate added paint which have
undergone the steps of the first processing line 8 and the
paint cans 5 of the aggregate-less paint are conveyed to the
next handling line 2.

In the handling line 2, the paint cans 5 from the first
processing line 8 are conveyed on a conveyer path 15 and the
cans 5 from the second processing line 9 are conveyed on a
conveyer path 16 (the conveyer path 15 and the conveyer path
16 may be unified) to be sent to a classifying line 17.

A classifying point 18 for shipping/stocking a required
number of goods is provided in the classifying line 17 to read
the handling instructing data of the manufacturing/handing
data of the paint cans 5 sent one after another by mechanical
means such as a code reader to transfer only the corresponding

paint cans 5 prescribed at the classifying point 18 to corresponding shipping pallet 19 or a stocking pallet 20 and to pass the other paint cans 5 as they are to send them to the next classifying point 18.

As described above, the system of the present embodiment allows a large number of and a great variety of paints to be manufactured continuously and efficiently while being contained in the packaging containers and the classification thereof and the classification of the pallets per each shipping/stocking destination to be carried out automatically without causing failures.

While the preferred embodiment has been described, variations thereto will occur to those skilled in the art within the scope of the present inventive concepts which are delineated by the following claims.

ABSTRACT OF THE DISCLOSURE

~~There is provided a method for manufacturing and handling a variety of fluid component packaged goods efficiently.~~

A fluid component is prepared within a packaging container and a ~~Fluid component is prepared within a packaging container and a~~ manufacturing/handling instructing data code containing both manufacturing information of the fluid component and handling information of the fluid component packaged goods is indicated on the package to carry out ~~the whole~~ an entire manufacturing and handling ~~steps from first to last~~ method by the data code.